CLAIMS:

1. A device for controlling the collection and delivery of blood, comprising a syringe-engaging portion, the syringe-engaging portion being operable in a release position to receive a syringe when the syringe is in a blood-containing configuration, the syringe-engaging portion being operable in a lock position for locking the syringe therewith, and access control means for controlling the release and lock positions according to a blood transaction condition.

2. A device as defined in claim 1 wherein the syringe-engaging portion includes a cavity to receive the syringe.

3. A device as defined in claim 2 wherein the syringe-engaging portion has a side wall and the cavity is located in the side wall.

4. A device as defined in claim 3 wherein the first syringe has a body having a first end flange on one end thereof and a plunger slidably engaged with the body, the plunger having a second end flange on a remote end thereof, the cavity having a first formation to receive the first end flange.

5. A device as defined in claim 2, wherein the access control means further comprises at least one barrier portion to extend at least partially across the cavity in the lock position.

6. A device as defined in claim 5 wherein the access control means further comprises a pair of barrier members with opposing outer free end regions, the barrier members being movable between a release position wherein the free ends are separated to permit the syringe to pass therebetween and a lock position wherein the outer free ends are positioned sufficiently close to one another to prevent removal of the syringe from the first cavity.

7. A device as defined in claim 6, further comprising a control portion, the syringe-engaging portion being removably attached to the control portion.

8. A device as defined in claim 6, further comprising pivot means for pivoting each barrier member between the release and lock positions.

9. A device as defined in claim 8 wherein the pivot means includes pivot pin for mounting each of said barrier members to the body for movement between the release and lock positions.

10. A device as defined in claim 9, further comprising biasing means for biasing the barrier members toward their respective lock positions.

11. A device as defined in claim 10 wherein each barrier member has an inner end region opposite the outer free end regions, further comprising latch means for latching the barrier members in their lock positions.

12. A device as defined in claim 11, wherein the syringe engaging portion further comprises a body, a trigger structure movably mounted on the body, the control portion further comprising an actuating driver , wherein the trigger structure is movable relative to the body under the action of an actuating driver .

13. A device as defined in claim 12 wherein the trigger structure is pivotally coupled with the body and the latch means includes a latch member to obstruct the path of the inner end regions of the barrier members in their lock positions.

14. A device as defined in claim 13 wherein the trigger structure includes a latch portion, the inner end regions of each barrier member each including a locking pin which is obstructed by the latch

member in the lock position.

15. A device as defined in claim 14 wherein the trigger structure includes a first pair of support arms engaging a corresponding pair of pivot locations in the body.

16. A device as defined in claim 15 wherein the trigger structure includes at least one second arm including a user-activated trigger pad.

17. A device as defined in claim 16 wherein the cam portion is centrally located between the second arm on one side thereof and the two first arms on another side thereof.

18. A device as defined in claim 12 wherein the trigger structure is operable in a first position to disconnect the syringe engaging portion from the control portion, a second position to connect the syringe engaging portion with the control portion with the barrier members in their respective lock positions and a third position to connect the syringe engaging portion with the control portion with the barrier members in their respective release positions.

19. A device as defined in claim 18 wherein the syringe engaging portion has at least one locking formation to engage at least one first complementary locking formation on the control portion, the syringe engaging portion further comprising at least one second locking member to engage at least one second locking formation on the control portion, wherein the second locking member is movable to an engaged condition with the second locking formation when the trigger structure is in the second or third positions.

20. A device as defined in claim 19, further comprising a pair of opposed second locking members, the trigger structure further including a pair of abutment portions each arranged to engage a corresponding second locking member.

21. A device as defined in claim 7 wherein the control portion includes a data transfer unit, the data transfer unit being operable to transmit and receive patient identification data representative of a subject patient and thereby to establish a first blood transaction condition, the control portion being operable in the first blood transaction condition to activate the actuating driver to establish the release position for the barrier members to receive a first syringe containing blood from the subject patient and to establish the lock position for barrier members to lock the first syringe in the first cavity.

22. A device as defined in claim 21 wherein the data transfer unit includes data transmitting and receiving means and data storage means for recording data received by the data receiving means.

23. A device as defined in claim 22 wherein the data receiving means includes a wired or wireless data port.

24. A device as defined in claim 23 wherein the wireless data port includes a barcode reader, an RF signal receiver or an Infrared transmitter receiver.

25. A device as defined in claim 21 wherein the data transfer unit is operable to transfer the patient identification data to a blood treatment unit and thereby to establish a second blood transaction condition, the control portion being operable in the second blood transaction condition to activate the actuating driver to establish the release position for the barrier members to release the first syringe to a first syringe station in the blood treatment unit.

26. A device as defined in claim 25 wherein the data transfer unit is operable to receive treated blood identification data from the blood treatment unit, the data transfer unit also being operable to receive treated blood verification data from a second syringe containing treated blood from the

subject patient and positioned at a second syringe station in the blood treatment unit, thereby to establish a third blood transaction condition, the control portion being operable in the third blood transaction condition to activate the actuating driver to establish the release position for the barrier members to receive the second syringe.

27. A device as defined in claim 26 wherein the data transfer unit is operable to receive patient verification data to establish a fourth blood transaction condition, the control portion being operable in the fourth blood transaction condition to activate the actuating driver to establish the release position for the barrier members to release the second syringe.

28. A device as defined in claim 27 wherein the control portion includes first sensing means for sensing the presence of the syringe engaging portion.

29. A device as defined in claim 28 wherein the control portion includes second sensing means for sensing the presence of at least one type of syringe in the syringe engaging portion.

30. A device as defined in claim 29 wherein the second sensing means includes a proximity detector, the syringe engaging portion having an opening to align with the proximity detector.

31. A device as defined in claim 30 wherein the control portion includes data port for exchanging data with a blood treatment unit.

32. A system for blood processing, comprising:

- a first syringe to receive a blood sample from a subject patient;

- a patient identifier attachable to the subject patient;

- a blood treatment unit;

- a syringe carrier for transferring the first syringe containing the blood sample to the blood treatment unit, the syringe carrier being operable in a release position to receive the first syringe when the first syringe is in a blood-containing configuration, the syringe carrier being operable in a lock position for locking the first syringe therewith, and access control means for controlling the release and lock positions to control access to the first syringe according to a blood sample transfer condition.

- a second syringe to receive the blood sample after treatment in the blood treatment unit to form a treated blood sample; and

-the syringe carrier being operable in the release position to receive the second syringe when the second syringe is in a blood-containing configuration, the syringe carrier being operable in the lock position for locking the second syringe therewith, said access control means being operable to controlling the release and lock positions to control access to the second syringe according to a treated blood transfer condition.

33. A system as defined in claim 32 wherein the patient identifier includes a patient wristband.

34. A system as defined in claim 33 , wherein the syringe carrier includes a syringe-engaging portion with a first cavity to receive the syringe.

35. A system as defined in claim 34 wherein the syringe-engaging portion has a side wall and the first cavity is formed in the side wall.

36. A system as defined in claim 35 wherein the first syringe has a body having a first end flange on one end thereof and a plunger slidably engaged with the body, the plunger having a second end flange on a remote end thereof, the first cavity having a first formation to receive the first end flange.

37. A system as defined in claim 36 wherein the access control means further comprises at least one barrier portion to extend at least partially across the first cavity in the lock position.

38. A system as defined in claim 37 wherein the access control means further comprises a pair of barrier members with opposing free end regions, the barrier members being movable between a release position wherein the free ends are separated to permit the first or second syringes to pass therebetween and a lock position wherein the free ends are positioned sufficiently close to one another to prevent removal of the syringe from the cavity.

39. A system as defined in claim 38, wherein the syringe carrier further comprises a control portion, the syringe-engaging portion being removably attached to the control portion.

40. A system as defined in claim 39, further comprising actuating means for actuating the barrier members between the release and lock positions.

41. A system as defined in claim 40 wherein the control portion includes a data transfer unit, the data transfer unit being operable to transmit and receive patient identification data representative of a subject patient and thereby to establish an untreated blood sample transfer condition, the control portion being operable in the untreated blood sample transfer condition to transfer the barrier members to the release position to receive the first syringe containing blood from the subject patient and to transfer the barrier members to the lock position to lock the first syringe therein.

42. A system as defined in claim 41 wherein the data transfer unit includes data receiving means and data storage means for recording data received by the data receiving means.

43. A system as defined in claim 42 wherein the data receiving means includes a wired or wireless data port.

44. A system as defined in claim 43 wherein the wireless data port includes a barcode reader or an RF signal receiver.

45. A system as defined in claim 42 wherein the data transfer unit is operable to receive treated blood identification data from the blood treatment unit, the data transfer unit also being operable to receive treated blood verification data from the second syringe containing treated blood from the subject patient and positioned at a second syringe station in the blood treatment unit, thereby to establish a treated blood transfer condition, the control portion being operable in the treated blood transfer condition to transfer the barrier members to the release position to receive the second syringe and to transfer the barrier members to the lock position to lock the first syringe therein.

46. A system as defined in claim 32, wherein the treatment unit includes a housing, further comprising a syringe platform removably mounted in the housing, the platform further comprising a first syringe station to receive the first syringe and a second syringe station to receive the second syringe.

47. A system as defined in claim 46 wherein the syringe platform further comprises an anchor means for anchoring the first and second syringes at the first and second syringe stations respectively.

48. A system as defined in claim 47 wherein each anchor means includes at least one upstanding

anchor tab which engages the first end flange on the first syringe.

49. A system as defined in claim 48, further comprising an actuating member for displacing the tabs for locating the corresponding syringe in the corresponding syringe station.

50. A system as defined in claim 49 wherein the actuating member includes at least one release pin which is oriented to make contact with the syringe engaging portion for displacing the release pins when the syringe engaging portion is in a syringe delivering orientation adjacent the corresponding syringe station.

51. A system as defined in claim 50, further comprising a pair of actuating pins for each syringe station, a pair of alignment flanges on oppose sides of each syringe station, each of said alignment flanges including a longitudinal passage locating one of said release pins.

52. A system as defined in claim 51 wherein each alignment flange includes an upstanding post.

53. A system as defined in claim 52 wherein each alignment flange includes a groove to receive a corresponding ridge formed on the syringe engaging portion.

54. A system as defined in claim 53 wherein the ridge is located in a second locating cavity formed on the syringe engaging portion.

55. A system as defined in claim 50, further comprising at least one permanent locking flange which is unresponsive to the release pins.

56. A system as defined in claim 55, wherein each syringe station includes an exposed spill collecting chamber for collecting spilled materials from the corresponding syringe.

57. A system as defined in claim 46 wherein the syringe platform further includes a pair of syringe fluid transfer terminals, each to establish fluid communication with a corresponding one of said first and second syringes.

58. A system as defined in claim 57 wherein the syringe platform further comprises a treatment chamber, each syringe fluid transfer terminal being in fluid communication with said treatment chamber.

59. A system as defined in claim 58 wherein the treatment chamber is expansible.

60. A system as defined in claim 59 , wherein the syringe platform further includes a pair of conduits, each joined at one end to a corresponding syringe fluid terminal.

61. A system as defined in claim 60 wherein the treatment chamber includes an upper lid portion, a lower base portion and a collapsible portion there between.

62. A system as defined in claim 61 wherein the collapsible portion includes a sleeve.

63. A system as defined in claim 62 wherein the collapsible portion includes at least one positioning ring between the upper lid portion and the lower base portion.

64. A system as defined in claim 63 wherein the base portion includes a pair of fluid transfer flanges for receiving one end of each of said conduits thereon, each of said fluid transfer flanges establishing fluid communication between an interior region of the treatment chamber and each of said conduits.

65. A system as defined in claim 64, further comprising a positioning housing with an inner passage to receive the treatment chamber.

66. A system as defined in claim 65 wherein the positioning housing includes a transparent cylindrical housing portion whose inner cross sectional area is selected to nest the treatment chamber therein.

67. A system as defined in claim 66 wherein the lower base portion includes a number of positioning vanes extending downwardly therefrom, the vanes dimensioned to align the lower base portion relative to the inner passage.

68. A method of controlling the transfer of blood between a subject patient and a blood treatment unit, comprising the steps of:

- providing a first syringe containing a sample of untreated blood from a subject patient;

- providing a syringe carrier which is operable in a release position to receive the first syringe; the syringe carrier being operable in a lock position for locking the first syringe therewith, the carrier having an access controller for controlling the release and lock positions according to a blood transaction condition, the access controller including a data transfer unit which is operable to receive patient identification data representative of a subject patient;

- in a first blood transaction step, delivering patient identification data representative of a subject patient to the data transfer unit, thereby to place the syringe carrier in a release position to receive the first syringe and thereafter to place the syringe carrier in a lock position to lock the first syringe therein;

- in a second blood transaction condition, transferring the patient identification data to a blood treatment unit, thereby to place the syringe carrier in the release position to release the first syringe to a first syringe station in the blood treatment unit;

- in a third blood transaction step, delivering treated blood identification data from the blood treatment unit to the syringe carrier, and delivering treated blood verification data from a second syringe containing treated blood from the subject patient and which is positioned at a second syringe station in the blood treatment unit, and placing the syringe carrier in the release position to receive the second syringe;

- in a fourth blood transaction step, delivering patient verification data to the syringe carrier and placing the syringe carrier in the release position to release the second syringe.

69. A process of extracting a body fluid aliquot from a patient, extracorporeally treating at least a portion of the aliquot and returning the treated portion to said patient, comprising the steps of:

- equipping the patient with a body fluid aliquot identification means which includes patient - identifying indicia;
- withdrawing the body fluid aliquot from the patient;
- labeling the aliquot or portion thereof to be treated with aliquot-identifying indicia uniquely correlating with said patient-identifying indicia;
- rendering the aliquot inaccessible;
- extracorporeally treating the labeled aliquot or portion thereof;
- establishing correlation between the aliquot-identifying indicia and said patient-identifying indicia;
- causing the establishment of the correlation to permit access to treated aliquot or portion thereof to the patient; and returning the treatment aliquot or portion thereof to the patient;

- whereby said patient is assured of receiving a treated aliquot or portion thereof which was initially extracted from said patient.

70. A process as defined in claim 69 wherein the identifying indicia are RF transmitted-received signals.

71. A process as defined in claim 69 wherein the identifying indicia are bar codes.

72. A process as defined in claim 69 wherein the identifying indicia are mutually interfitting mechanical interlocks.

73. A process as defined in claim 69 wherein the aliquot is whole blood.

74. A process as defined in claim 73 wherein the entire aliquot as withdrawn is treated (i.e. no fractionation step).

75. A process as defined in claim 74 wherein the aliquot is withdrawn into a first dispenser carrying the aliquot-identifying indicia.

76. A process as defined in claim 75 wherein the aliquot is transferred from said first dispenser into a treatment container for conducting the treatment, said treatment container being labeled to provide a first treated-aliquot-identifying indicia for the treated aliquot.

77. A process as defined in claim 76 wherein the aliquot is transferred from the treatment container to a second dispenser after treatment, the second dispenser being labeled to provide a second treated-aliquot-identifying indicia for the treated aliquot.

78. A process as defined in claim 77 wherein the second treated-aliquot-identifying indicia is checked to correlate with the patient-identifying indicia to provide patient access to the treated aliquot for return to the patient.

79. A process as defined in claim 78 wherein the blood aliquot is treated with oxidative stress.

80. A process as defined in claim 79 wherein the oxidative stress is ozone/oxygen gaseous mixture bubbled through the aliquot.

81. A process as defined in claim 80 wherein the blood aliquot is treated with UV radiation.

82. A process as defined in claim 80 wherein the blood aliquot is treated with heat.

83. A process as defined in claim 80 wherein the blood is treated simultaneously with at least two of UV, oxygen/ozone and heat.

84. A process as defined in claim 83 wherein the first and/or second dispensers include syringes or syringe-type devices.

85. A device for controlling the collection and delivery of materials to a patient, comprising a dispenser-engaging portion, the dispenser-engaging portion being operable in a release position to receive a materials dispenser when the dispenser is in a materials-containing configuration, the dispenser-engaging portion being operable in a lock condition for locking the dispenser therewith, and access control means for controlling the release and lock positions according to a material transaction condition.

86. A device as defined in claim 85 wherein the dispenser includes a syringe, IV bottle, powder

and/or atomized fluid and/or gas inhalant dispenser, implant delivery dispenser, ventilator, syringe pump, intubation tube, or a gastrointestinal feeding tube or a plurality and/or a combination thereof.

87. A device as defined in claim 86 wherein dispenser-engaging portion includes a first cavity to receive the dispenser, the first cavity being accessible through a side wall or an end wall thereof.

88. A device as defined in claim 87 wherein the dispenser-engaging portion has a side wall and the first cavity is located in the side wall.

89. A device as defined in claim 88, wherein the access control means further comprises at least one barrier portion to extend at least partially across the first cavity in the lock position.

90. A process of extracting a body fluid aliquot from a patient, extracorporeally treating at least a portion of the aliquot and returning the treated portion to said patient, comprising the steps of:

- equipping the patient with a body fluid aliquot identification means which includes patient-identifying indicia;
- withdrawing the body fluid aliquot from the patient;
- labeling the aliquot or portion thereof to be treated with aliquot-identifying indicia uniquely correlating with said patient-identifying indicia;
- locking the aliquot against delivery with an indicia responsive lock;
- extracorporeally treating the labeled aliquot or portion thereof;
- establishing correlation between the aliquot-identifying indicia and said patient-identifying indicia in order to permit patient access to the treated aliquot or portion thereof; and
- after establishing said correlation, returning the treated aliquot or portion thereof to the patient by response of the indicia responsive lock to the correlation so established;

- whereby said patient is assured of receiving a treated aliquot or portion thereof which was initially extracted from said patient.

91. A device for controlling the delivery of blood, comprising a syringe-engaging portion, the syringe-engaging portion being operable in a lock position for locking the syringe therewith when the syringe is in a blood-containing configuration, and in a release position to release the syringe, and access control means for controlling the release and lock positions according to a blood transaction condition.

92. A device as defined in claim 91 wherein the syringe-engaging portion includes a cavity to receive the syringe.

93. A device as defined in claim 92, wherein the access control means further comprises at least one barrier portion to extend at least partially across the cavity in the lock position.

94. A device as defined in claim 91 wherein the access control means includes a data transfer unit, the data transfer unit being operable to receive patient identification data representative of a subject patient and thereby to establish a blood transaction condition, the control portion being operable in a blood transaction condition to establish the release position for the barrier member to release the syringe.

95. A device as defined in claim 94 wherein the data transfer unit includes data receiving means and data storage means for recording data received by the data receiving means.

96. A device as defined in claim 95 wherein the data receiving means includes a wireless data port.

97. A device as defined in claim 95 wherein the data receiving means includes a wired data port.

98. A device as defined in claim 96 wherein the wireless data port includes a barcode reader, an RF signal receiver or an Infrared transmitter receiver.

99. A device as defined in claim 94 wherein the data transfer unit is operable to receive patient verification data to establish the release position for the barrier member to release the syringe.

100. A method of controlling the transfer of blood between a subject patient and a blood treatment unit, comprising the steps of:

- providing a first syringe to receive a sample of untreated blood from a subject patient;

- providing the subject patient with a patient RF signal processor;

- providing a second syringe to receive the sample following treatment;

- providing each of the first syringe and the second syringe with an RF signal processor;

- arranging the RF signal processors on the first syringe and with the patient to issue a signal containing common or related identity data;

- delivering the first syringe to the blood treatment unit for performing a treatment step to form a treated blood sample;

- reading the identity data from the first syringe and writing the identity data to the second syringe;

- collecting the treated blood sample from the treatment unit in the second syringe;

- bringing the second syringe within range of the patient RF signal processor to confirm a match therebetween; and thereafter

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- delivering the treated blood sample to the patient.